

evaporation is reduced.

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Please cancel claim 26.

REMARKS

Claims 21, 29, 32-34, 36-39 have been amended. Support for the amended claims can be found in the specification and the claims as originally filed. No new matter has been added by these claim amendments. The claims have been amended to clarify that the minute droplet is a droplet of an aqueous solution. Further, the claims have been amended to clarify that the aqueous solution is immiscible with the oily layer. Claims 21, 33, and 34 have been amended to recite "shooting a minute droplet of said aqueous solution into said oily layer to contact said planar substrate."

New claim 40 has been added and claims a process for conducting a reaction in a minute droplet of an aqueous solution protected from evaporation at a high temperature. Support for this new claim is found in the specification as it discloses reactions performed at high temperatures, such as the PCR reaction.

Claim 26 has been canceled.

Claims 21-22, 25, 29, 32-34, 36-40 are pending.

CLAIM REJECTIONS UNDER 35 U.S.C. § 112, FIRST PARAGRAPH

The Examiner has rejected claims 34-39 as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors at the time the application was filed, had possession of the claimed invention. The Examiner states that the claims are drawn to a process for conducting a reaction in a minute droplet protected from evaporation and as such the claimed reaction

encompasses a very large genus of reactions. Applicants respectfully traverse this ground of rejection as follows. Claims 34-39 are drawn to a "process for conducting a reaction in a minute aqueous droplet protected from evaporation," and the desired result is the reduction of evaporation. Applicants herewith submit two articles (1) Nucleic Acids Research, 1997, Vol. 25, No. 10 and (2) Current Chemistry, Vol. 194, "Microsystem Technology in Chemistry and Life Sciences," 1998.), which demonstrate that it has been known in the art to conduct a reaction in minute aqueous droplet, such as the labeling of amino acids and fragmentation of DNA using a restriction enzyme. Applicants submit that one skilled in the art, intending to conduct a specific reaction, would have been able to properly select reagents, reagent preparations, reagent conditions, environmental conditions and chemical conditions to obtain the desired reaction. Accordingly, Applicants respectfully request withdrawal of this ground of rejection.

CLAIM REJECTIONS UNDER 35 U.S.C. § 112, SECOND PARAGRAPH

Claims 21-39 have been rejected as being indefinite. Claim 26 has been canceled thus rendering this ground of rejection moot, as it pertains to claim 26. With respect to the pending claims, the applicants have amended the claims to provide the proper antecedent basis for "a minute droplet of an aqueous solution." Accordingly, Applicants respectfully request withdrawal of this ground of rejection.

CLAIM REJECTIONS UNDER 35 U.S.C. § 102

The Examiner has rejected claims 21, 22, 25, 26, 29, 34 and 36 as being anticipated by Monk et al. in view of the teaching of Drohan et al. Applicants respectfully traverse this ground of rejection as follows. Applicants have amended the independent claims 21, 33 and 34 to include the step of "shooting a minute droplet of said aqueous solution into said oily

liquid layer to contact said planar substrate." Monk, on the other hand, discloses introducing the eggs into liquid paraffin using a pulled Pasteur pipette. Applicants respectfully submit that Monk does not teach nor suggest "shooting" the eggs into liquid paraffin, let alone shooting a minute droplet of the aqueous solution into the oily liquid layer to contact the substrate. Further, Monk concerns eggs wherein a nuclear transfer is conducted, whereas the present invention concerns a minute droplet of an aqueous solution wherein a chemical reaction is conducted. Applicants submit that Monk does not teach nor suggest replacing the former with the latter and therefore does not anticipate nor render the present invention obvious. Accordingly, Applicants respectfully request withdrawal of this ground of rejection.

CLAIM REJECTIONS UNDER 35 U.S.C. § 103

The Examiner has rejected claims 21-33, 38 and 39 as being unpatentable over Monk, Brown, and Sambrook. As discussed above, the claims have been amended to include the step of "shooting a minute droplet of said aqueous solution into said oily liquid layer to contact said planar substrate." Monk, on the other hand, discloses introducing the eggs into liquid paraffin using a pulled Pasteur pipette. Applicants respectfully submit that Monk does not teach nor suggest "shooting" the eggs into liquid paraffin, let alone shooting a minute droplet of the aqueous solution into the oily liquid layer to contact the substrate. Further, Monk concerns eggs wherein a nuclear transfer is conducted, whereas the present invention concerns a minute droplet of an aqueous solution wherein a chemical reaction is conducted. Applicants submit that Monk does not teach nor suggest replacing the former with the latter and therefore does not anticipate nor render the present invention obvious. Thus, since Monk does not teach nor suggest the claimed invention, it would not have been obvious to combine the teachings of Monk with that of Brown or Sambrook to arrive at the present invention. Accordingly, Applicants respectfully request withdrawal of this ground of rejection.

CONCLUSION

In view of the foregoing amendments and remarks, it is firmly believed that the subject invention is in condition for allowance, which action is earnestly solicited.

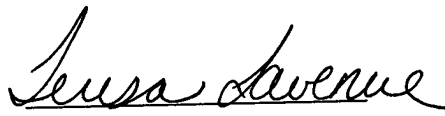
The Office is hereby authorized to charge Deposit Account No. 11-0600 with any additional fees required by this paper or credit any overpayment.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned directly at (202) 220-4258.

Prompt and favorable consideration of this Amendment is respectfully requested.

KENYON & KENYON

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Teresa Ann Lavenue
Reg. No. 47,737